ENVIRONMENTAL DIVISION

# ENVIRONMENTAL ASSESSMENT
# LACOSTE TANGIPAHOA RIVER BULKHEAD

## DR. JOSEPH R. LACOSTE
## TANGIPAHOA PARISH, LOUISIANA


Prepared by:
C. H. FENSTERMAKER & ASSOCIATES, LLC
Project Manager: Nicholas Gaspard
(337) 237-2200
nicholas@fenstermaker.com


November 26, 2013


Lafayette
135 Regency Square
Lafayette, LA 70508
P. O. Box 52106 (70505)
337.237.2200 phone
337.232.3299 fax

New Orleans
1100 Poydras, Suite 1550
New Orleans, LA 70163
P. O. Box 57089 (70157-7089)
504.582.2201 phone
504.582.2210 fax

Baton Rouge
445 North Blvd., Suite 60
Baton Rouge, LA 70802
225.344.6701 phone
337.232.3299 fax

Houston
5005 Riverway, Suite 300
Houston, TX 77056
713.840.9995 phone
713.840.9997 fax

Shreveport
401 Market Street
Shreveport, LA 71101
318.222.0040 phone
318.222.0042 fax
www.fenstermaker.com


FENSTERMAKER

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November 26, 2013

Mr. Zachary Chain
Louisiana Department of Wildlife and Fisheries
Scenic Rivers Program
P.O. Box 98000
Baton Rouge, LA 70898-9000

**RE: SCENIC RIVERS PERMIT APPLICATION**
**JOSEPH LACOSTE, JR.**
**PROPOSED BULKHEAD**
**TANGIPAHOA RIVER**
**SECTION 13, T6S-R8E**
**TANGIPAHOA PARISH, LOUISIANA**

Dear Mr. Chain:

We have been appointed by Joseph Lacoste, Jr. to serve as their agents in obtaining a permit from Louisiana Department of Wildlife and Fisheries - Scenic Rivers Program for the above referenced project. The purpose of the proposed project is to install a bulkhead for bank stabilization and prevent further erosion. Approximately 1020 cubic yards of fill will be required for bank stabilization.

Fenstermaker has filed for a required U.S. Army Corps of Engineers permit on behalf of Mr. Joseph Lacoste, Jr. The permit application reference number is MVN-2013-01618-CJ.

Please note that Mr. Joseph Lacoste, Jr. does not have a compliance history, or any outstanding issues regarding permitted activities.

Enclosed are a set of drawings, a Scenic Rivers Permit Application, an Environmental Assessment with project site photos, a signed legal agreement, and a check in the amount of $100.00 to cover the required fee.

Should you have further questions regarding this matter, please feel free to contact me at the address or phone number of our Lafayette office shown below or via e-mail at nicholas@fenstermaker.com.

Sincerely,

**FENSTERMAKER**

Nicholas Gaspard
Sr. Environmental Specialist

Enclosures

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# PERMIT APPLICATION

Permit# 887 (Assigned by Department)

The Louisiana Department of Wildlife and Fisheries' Scenic Rivers program is authorized by LRS title 56, Chapter 9 Part II. This law requires permits authorizing activities in or affecting rivers that have been designated by the Louisiana Legislature as Natural and Scenic. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

## APPLICANT INFORMATION

| | |
|---|---|
| Name of Applicant Joseph Lacoste, Jr. | Name of Agent (if any) Nicholas Gaspard |
| Address 800 C.M. Fagan Drive | Address 135 Regency Square |
| Address Suite A | Address |
| City, State, Zip Hammond, LA 70403 | City, State, Zip Lafayette, LA 70508 |
| Phone (985) 345-5888 | Phone (337) 237-2200 |

## DESCRIPTION OF THE PROPOSED ACTIVITY

Brief summary of the description and purpose of the proposed activity (details to be attached as a separate document)

Proposed Bulkhead for Bank Stabilization on the East Bank of the Tangipahoa River. The purpose of the proposed activity is to provide bank stabilization and prevent erosion.

Is any portion of the activity complete? YES (NO) (If yes indicate month and year of completion)

## LOCATION OF PROPOSED ACTIVITY

| | | |
|---|---|---|
| Stream Name | Tangipahoa River | Names, Addresses, Phone Numbers of Adjacent Property Owners |
| Parish | Tangipahoa Parish, LA | |
| Section | 13 | |
| Township | 6S | |
| Range | 8E | |
| Latitude/Longitude | 30°31'48.4" N, | |

## ENVIRONMENTAL ASSESSMENT

Must be a separate document. See the attached instruction sheet for completing the assessment.

## CONFIRMATION OF INFORMATION ACCURACY

Application is hereby made for a Scenic River Use Permit to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that, to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities, or I am acting as the duly authorized agent of the applicant.

Signature

11/26/2013

Date

## ATTACHMENTS AND ENVIRONMENTAL ASSESSMENT

1. A complete description of the proposed project (including drawings).
2. A map showing the exact location of the project on the river.
3. Photographs of the project site from both banks of the river (if possible) and an upstream and downstream view of the project site from the project side of the river.
4. A list of all other local, state and federal permits required for this project.
5. An environmental assessment which includes separate evaluation of impacts on each of the following:

**a. Existing Land Use**
**b. Historical/Archeological Sites**
**c. Economic Impact of the Project**
**d. Wilderness/Rural Quality**
**e. Scenic/Aesthetic Value**
**f. Recreational Use/Opportunities**
**g. Ecological Systems Present**
**h. Fish and Wildlife in the Area**
**i. Botanical Elements (Vegetation)**
**j. Geological Features**
**k. Hydrological Features**
**l. Water Quality/Quantity**

**For each of these criteria, detail existing conditions, potential adverse impacts, if any, and mitigative measures being taken to minimize, eliminate or compensate for those impacts. Provide a statement of justification for each proposed action and a discussion of any alternative locations and/or methods that were considered. If no impacts are projected for a criterion, then state that no impact is expected and give the reasons for that conclusion.**

6. The signed original of the enclosed legal agreement.
7. A statement of the applicant=s compliance history. (Has the applicant ever been cited for a violation of the Scenic Rivers Act?)
8. A detailed listing of the steps that the applicant has taken in the development of the project to minimize and/or offset potential impacts to the river.
9. A listing of alternatives to the proposed project.

## FEES AND OTHER CHARGES

**The administrative fee for each application is $100.00 and must be submitted with the application. A fee of $135.00/day will be assessed for site visits and field evaluations if they are necessary. Make check payable to: State of Louisiana Scenic River Fund**

**Mail the completed application along with six (6) complete copies, the fee, and any additional charges to:**

**Louisiana Department of Wildlife and Fisheries**
**Scenic Rivers Program**
**P.O. Box 98000**
**Baton Rouge, LA 70898-9000**
**Telephone: (225) 343-4045**

## INFORMATION ON THE SCENIC RIVER PERMIT PROCESS

**The Louisiana Legislature has prohibited certain uses on designated watercourses to preserve, protect, develop, reclaim and enhance their natural and scenic qualities (Act 947 of 1988). Prohibited uses are: (1) channelization, (2) channel realignment, (3) clearing and snagging and (4) reservoir construction (impoundment), (5) clearcutting of trees for commercial purposes within 100 feet of the ordinary low water mark of a designated Natural and Scenic River.**

**Uses other than those that are prohibited that have potential of causing direct and significant degradation to a Scenic River or its tributaries are regulated by a permit process and multi-agency review by the Department of Wildlife and Fisheries, Department of Environmental Quality, Department of Agriculture and Forestry, Department of Culture, Recreation, Tourism, and the Office of State Planning & Budget, and frequently in collaboration with other State and Federal regulatory functions. Examples of these include crossings by roads, pipelines and utilities, discharges, mining, piers, bulkheads and other non-conforming structures and activities.**

**After a complete and sufficient application has been assigned a permit number by the Scenic Rivers Coordinator, the copies are distributed to the review agencies for a full and thorough evaluation of thirty (30) days duration. During this time the coordinator may schedule and make a site inspection. The applicant publishes a description of the proposed use in selected newspapers and sends evidence of this to the Coordinator. The public comment period is forty-five (45) days and begins with the date of publication in the official state journal. If there is sufficient interest from the public, a public hearing may be held. The decision by the Administrator (Secretary of the Department of Wildlife and Fisheries) to grant or deny the permit will be made within fifteen (15) days after the public comment period or the public hearing (if one is held). Most permits are valid for the useful life of the project, but are invalidated if the permitted activity has not begun within eighteen (18) months. Applicants may appeal denial of a permit to the 19th Judicial District Court after an administrative hearing in accordance with the State Administrative Procedure Act.**

**In serious and urgent situations, the waiting periods for standard permitting procedures may be waived and an emergency permit granted by the Administrator. For these emergency procedures to be applicable, it must be clearly indicated in the application and the site inspection that circumstances are sufficiently dire, through no fault of the applicant, to represent imminent harm to human health or the immediate environment and that those circumstances would significantly worsen during the review period required by standard procedure.**

## CHECKLIST OF APPLICANT RESPONSIBILITIES IN THE SCENIC RIVER PERMIT PROCESS

___1. **Submit the original application along with six complete copies. In addition to addressing each of the twelve (12) criteria of the environmental assessment, the application must also contain the following information:**

| | | | |
|---|---|---|---|
| ___a. | Project description & scaled drawings | ___f. | Statement of compliance history |
| ___b. | Vicinity map of project location | ___g. | List of steps taken to minimize impact |
| ___c. | Color photos of project site (7 sets) | ___h. | List of project alternatives |
| ___d. | List of other permits required | ___i. | $100 permit fee |
| ___e. | Signed legal agreement | ___j. | Site visit fees (if applicable) |

___2. **Publish public notices in the official state journal and the official parish journal of the parish where the project is located. Mail proof of publication to the Scenic Rivers Coordinator.**

___3. **Begin permitted activity within eighteen months of permit issuance.**

**INSUFFICIENT OR INCOMPLETE APPLICATIONS WILL BE RETURNED TO THE APPLICANT**

## INFORMATION ON PUBLIC NOTICES FOR SCENIC RIVER PERMITS

**The forty-five (45) day public comment period begins with the publication of notice in the official state journal. It is the applicants responsibility to place public notice in one (1) issue of the official state journal (The Advocate, P.O. Box 588, Baton Rouge, LA 70821, Phone: 225-388-0128, Fax: 225-388-0164) and three (3) consecutive issues of the official parish journal of the parish(es) in which the project is to be done. The name of the official parish(es) journal can be obtained from the Scenic Rivers staff at (504) 765-2334 if it is not known.**

**Once public notices have been placed, the applicant is to send proof of publication to: Louisiana Department of Wildlife and Fisheries, Scenic Rivers Program, P.O. Box 98000, Baton Rouge, LA 70898. A permit cannot be issued until proof of publication has been received.**

**The suggested format for the public notice (with appropriate insertions) is as follows:**

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### PUBLIC NOTICE

**Request for Scenic River Permit on (name of Scenic River)**

**The Secretary of the Louisiana Department of Wildlife and Fisheries as Administrator of the Louisiana Natural and Scenic Rivers System is currently considering the application of (applicant's name) for a permit to (brief description of proposed activity) on (name of Scenic River). The decision to grant or deny this permit in the public interest will be based on an evaluation of the probable impacts of the proposed activity on (name of Scenic River).**

**Copies of the application can be seen by the public at the Department of Wildlife and Fisheries main office, Room 432, 2000 Quail Drive, Baton Rouge, LA and at the District Office in the District where the proposed activity is located. The public is invited to comment on this permit request for a period of forty-five (45) days. Responses should convey sound reasoning for or against the proposal and be mailed to Scenic Rivers Program, LDWF, P.O. Box 98000, Baton Rouge, LA 70898-9000.**

State of Louisiana

BOBBY JINDAL
GOVERNOR

DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM
SECRETARY

Dear Scenic River Permit Applicant:

Please review and concur on the following statement regarding the issuance of permits by the Louisiana Department of Wildlife and Fisheries. This agreement must be signed and returned before a Scenic River Permit can be issued.

"I have been advised and do understand that by applying for and accepting a Scenic Rivers permit issued by the Louisiana Department of Wildlife and Fisheries, I am being allowed to engage in an activity which would otherwise be prohibited by law or for which a permit is required. I understand that the permit is not a license and confers no property right upon me. I specifically agree to abide by all State and Federal fish and wildlife laws and regulations, and all State and Federal laws and regulations which relate to this permit or the permitted activity, and by all other terms and conditions of this permit. I understand that the permit for which I am applying may be suspended, annulled, withdrawn or revoked and that I may be assessed civil penalties, all in accordance with the provision of the Louisiana Administrative Procedure Act, and that I may be denied future permits as a consequence of my failure to fully and completely comply with the terms and conditions of the permit, as well as other laws and regulations pertinent thereto. If served with or notified of a cease and desist order signed by the Scenic Rivers Administrator, I agree to immediately and without delay cease all activities and operations which relate to the permitted activity or which are impacting the Scenic River, until such time as the matter can be resolved in an adjudicatory hearing pursuant to the Louisiana Administrative Procedure Act. I understand and agree that any permit issued to me by the Louisiana Department of Wildlife and Fisheries is in the nature of a privilege which is being voluntarily extended to me by the Department and the failure on my part to cooperate with the Department can result in the loss of the privilege conferred and the denial of future requests for permits. By accepting this permit, I evidence my agreement to be bound by all conditions and stipulations set forth herein."

Authorized Signature

11/20/13

Date

REV. 12/7/98

**Introduction**
Mr. Joseph Lacoste, Jr. (applicant) proposes to construct a bulkhead along the Tangipahoa River to stabilize the bankline and prevent erosion. The applicant's property is on the east bank of the Tangipahoa River and approximately 30' to 50' of the bankline was lost in August 2012 during hurricane Isaac.

**Purpose**
The purpose of the proposed project is to stabilize the bankline, remediate bankline erosion which occurred during hurricane Isaac, and to prevent further loss of the applicant's property.

**Project Description**
An approximate 500' wooden bulkhead will be constructed along the top of the east bank of the Tangipahoa River. Approximately 1,020 cubic yards of fill will be installed behind the bulkhead for bank stabilization. This fill material will be brought in from an upland source and will consist of free-draining, clean, granular sand fill, and with no less than 18" of clay "cap" material. Approximately 945' of fill will be above the ordinary high water mark. Approximately 75' of fill will be below the ordinary high water mark (Appendix A - Figure 4).

**Project Location**
The proposed activities would occur on the east bank of the Tangipahoa River, approximately 6.24 miles northeasterly from Hammond, LA in section 13, T6S-R8E, Tangipahoa Parish, Louisiana. Approximate coordinates for the project are LAT 30° 31' 48.44" N; LONG 90° 21' 40.55" W (Appendix A - Figure 1).

**Photo Report**
Photos of the project area are provided in Appendix B

**Other Permitting Requirements**
A jurisdictional wetlands determination has been submitted to and confirmed by the U.S. Army Corps of Engineers, New Orleans District. No jurisdictional wetlands will be impacted as a result of this project. No other local, state or federal permits are required to conduct the proposed activity.

**Environmental Assessment**

a. **Existing Land Use**
   Land surrounding the proposed project area is used for private, non-commercial, recreational activities.

b. **Historical/Archaeological Sites**
   According to the Louisiana Office of Cultural Development State Historic Preservation Office web site file search at http://crt-esri.crt.state.la.us/archweb_1/index.html, there are three documented archaeological sites and one archaeological survey within a mile of the project area. The file search indicates:

- 0.5 mi south, 16TA38 lithic and ceramic artifact scatter
- 0.9 mi southwest, 16TA35 historic cemetery with possible prehistoric internments
- 0.9 mi north 16TA39 prehistoric artifact scatter.

Potential exists for finding an archaeological site along elevated areas adjacent to the river. If cultural resources are found during the construction, work will cease in the immediate area and a qualified archaeologist will be contacted.

**c. Economic Impact of the Project**

The proposed project would provide a short term economic benefit to local materials suppliers and businesses directly associated with construction of the project. No long term economic impacts would result from construction or maintenance of the proposed project.

**d. Wilderness/Rural Quality**

There are no state wildlife management areas or federal wildlife refuges within or adjacent to the area of impact. Construction of the proposed project would result in a permanent minor alteration to the wilderness/rural quality of the Tangipahoa River.

**e. Scenic/Aesthetic Value**

Construction methods and materials have been designed and selected to maintain the scenic/aesthetic value of the river as much as possible, while meeting project objectives of erosion control and bank stabilization. Construction of the proposed project would result in a permanent minor alteration to the scenic/aesthetic value of the Tangipahoa River.

**f. Recreational Use/Opportunities**

Construction of the proposed bulkhead will improve opportunities for recreational use and enjoyment of the Tangipahoa River along the applicant's property and would not hamper or impede recreational use by others on the river.

**g. Ecological Systems Present**

Construction of the proposed project would have minor short term impacts to ecological systems within the vicinity of the proposed project. Construction of the bulkhead will disturb the streambed substrates and result in short term disturbance to the ecology during construction phase of the project. Bankline fauna and flora are expected to reestablish within a short time upon completion of the work. The bankline elevations and streambed gradient will be neglibly altered due to the presence of a bulkhead structure.

**h. Fish and Wildlife in the Area**

Construction of the project would occur at the ordinary high water mark along the cut bank side of the river. Activities associated with construction of the project have potential to impact sessile and burrowing species within bankline substrates. However,

the project has been proposed to stabilize a dynamic and highly erodible area, thus indicating lack of habitat for species such as mussels that require stable substrates with little sedimentation. Construction of the proposed project would have minor short term impacts to fish and wildlife within the vicinity of the proposed project. Construction of the bulkhead is not expected to cause significant disturbance to fish or wildlife during construction phase of the project, or for the life of the project. Bankline fauna and flora are expected to reestablish within a short time upon completion of the work. No impacts to terrestrial fauna are expected to occur as a result of the proposed project.

**Federal Species**

The U. S. Fish and Wildlife Service list of threatened, endangered and candidate species in Tangipahoa Parish includes: gulf sturgeon, West Indian manatee, red-cockaded woodpecker, and gopher tortoise. The **red-cockaded woodpecker (*Picoides borealis*) and gopher tortoise (*Gopherus polyphemus*)** occur in open canopy pine habitat with a dominant ground cover of grasses and forbes, which does not occur within the vicinity of the proposed project area. The proposed project would have no effect on those species. The list of federal species was obtained at http://www.fws.gov/lafayette/pdf/LA_T&E_Species_List.pdf.

**Gulf Sturgeon (*Acipenser oxyrhincus desotoi*)** (federal status - threatened)

The gulf sturgeon is an anadromous fish species which spawns in freshwater riverine habitat during summer months and migrates to marine waters during winter. Spawning usually occurs over hard clay, rubble, gravel, or shell (may also spawn in tidal waters or brackish water). Most individuals return to their natal river to spawn. In Louisiana, records of occurrence are known from the Amite River, the Tickfaw River, Tangipahoa River, Liberty Bayou-Tchefuncte River, Lake Pontchartrain, Middle Pearl River, Lower Pearl, and the Bogue Chitto River. Critical habitat has been established in the Pearl River basin, east of the Causeway Bridge.

The proposed project would not impact critical habitat. Individuals may be present in the project area during warmer months. However, construction of the bulkhead and placement of fill will not result in channelization, impede flow, or entrap fishes.

*Determination:* Activities associated with construction and maintenance of the proposed project are not likely to adversely affect gulf sturgeon.

**West Indian Manatee (*Trichechus manatus*)** (federal status – endangered)

U.S. populations of the West Indian manatee occur primarily in Florida, but are known to range throughout bays and estuaries as far west as Texas during the warmer months. In Louisiana, manatees have been known to occur in Lake Pontchartrain and its major tributaries, including the Tangipahoa River, and are expected to remain nearer the lake towards the mouth of the river. No critical habitat for this species has been established in Louisiana. Manatees inhabit freshwater, brackish and marine habitats, preferring shallow water (4' – 7') where they forage on floating and submerged aquatic vegetation.

Manatees are not expected to occur northward in the Tangipahoa River near the project area. No submerged aquatic vegetation occurs in the vicinity of the project site.

*Determination:* Construction of the proposed project is not likely to adversely affect West Indian manatees.

**State Species**
The Louisiana Department of Wildlife and Fisheries Natural Heritage Program's (LNHP) online database lists numerous species for Tangipahoa Parish. Due to the nature of the proposed project, no impacts to terrestrial species are expected to occur. Therefore, only aquatic species are considered within this report. The LNHP rare aquatic species for Tangipahoa Parish are listed below and were obtained at http://www.wlf.louisiana.gov/wildlife/species-parish-list?tid=264&type_1=All.
A complete list is provided in Appendix C

**West Indian Manatee (*Trichechus manatus*)** (federal status – endangered)
See comments and determination under federal species above.

**Gulf Sturgeon (*Acipenser oxyrhincus desotoi*)** (federal status - threatened)
See comments and determination under federal species above.

**Alabama Shad (*Alosa alabamae*)**
The Alabama shad is a very rare anadromous fish species. Adults live in salt water and migrate into coastal rivers to spawn. Spawning is believed to occur in open, flowing water over sand bars in late afternoon or at night. LNHP records are known from the Amite and Tangipahoa Rivers. Activities associated with construction of the proposed project are not likely to affect this species.

**Paddlefish (*Polyodon spathula*)**
The paddlefish is an anadromous fish species which inhabits slow-flowing, large and medium-sized rivers, river-margin lakes, channels, oxbows, backwaters, and impoundments with access to spawning areas. This species prefers depths greater than 5 feet, and seeks deeper water in late fall and winter. It may congregate near (human-made) structures that create eddies and reduce current velocity. Spawning occurs in fast, shallow water over gravel bars. Activities associated with construction of the proposed project are unlikely to affect this species.

**Broadstripe Topminnow (*Fundulus euryzonus*)**
The broadstripe topminnow occurs only in the Lake Ponchartrain drainage system of Mississippi and Louisiana, primarily in the Amite and Tangipahoa Rivers. Habitat for the broadstripe topminnow includes quiet pools and backwaters of creeks and small rivers and major river tributaries. Individuals are most frequently found at the surface along overhanging banks, overhanging partially submerged shrubs or trees, around

stumps, snags, and living trees standing in water close to the bank. Activities associated with construction of the proposed project are unlikely to affect this species.

**Alligator Snapping Turtle (*Macroclemys temminckii*)**
The alligator snapping turtle occurs in a variety of freshwater aquatic systems including slow-moving, deep water of rivers, sloughs, oxbows and canals or lakes associated with rivers, large impoundments, swamps, bayous, ponds, and shallow creeks that are tributary to occupied rivers, sometimes including swift upland streams. It may also be found in brackish waters near river mouths. Usually it occurs in water with a mud bottom and some aquatic vegetation but may also use sand-bottomed creeks. Potential exists for alligator snapping turtles to occur within the vicinity of the proposed project area. Activities associated with construction of the proposed project are unlikely to affect this species.

**Pascagoula Map Turtle (*Graptemys gibbonsi*)**
The Pascagoula map turtle occurs in the Pascagoula and Pearl River systems in Mississippi and eastern Louisiana. It is also found in many of the streams, lakes and creeks that are proximal or connected to these rivers. In Louisiana, it is only found in the Pearl River. This species is not expected to occur within the proposed project area because the historical and current known range is outside of the proposed area of impact. Activities associated with construction of the proposed project are unlikely to affect this species.

**Freshwater Mussel Species**
The LNHP lists the following mussel species in Tangipahoa Parish. The project site is located on the cutbank side of the river and has been proposed to remediate and stop erosion which began during hurricane Isaac and continues. High levels of erosion such as that in the project area decrease habitat suitability for mussels by increasing sedimentation in the water column and on the streambed. Many mussel species are unlikely to colonize or remain in areas where water quality or substrate quality are compromised due to high levels of sediment and suspended solids. Activities associated with construction of the proposed project are unlikely to affect mussel species.

**Southern Pocketbook (*Lampsilis ornata*)**
The southern pocketbook inhabits sand and gravel substrates in large creeks to large rivers with slow to moderate current; it has also been found in pools and backwater areas where there is little current and the substrate is predominantly mud. It is known from most drainages in the northern part of eastern Louisiana. It is listed as common in the Amite, Tangipahoa, and Pearl Rivers.

**Mississippi Pigtoe (*Pleurobema beadleianum*)**
The Mississippi pigtoe is a freshwater mussel species known to occur in small to medium coastal rivers in the north section of eastern Louisiana into southern

Mississippi. In Louisiana it is known from Liberty Bayou, Lake Maurepas, Lake Pontchartrain, Bayou Tchefuncte, the Pearl, Tangipahoa, Tickfaw and Amite Rivers.

**Rayed Creekshell (*Anodontoides radiatus*)**
The rayed creekshell inhabits small or medium-sized creeks and large rivers, where it occurs in mud, sand, or gravel substrates in slow to medium currents. It is known from most Gulf Coast drainages from the Apalachicola Basin in Alabama, Florida and Georgia west to the Amite River system and Lake Pontchartrain drainage in Louisiana. In Louisiana it is known from the Tickfaw, Amite, and Tangipahoa Rivers.

**Elephantear (*Elliptio crassidens*)**
The elephantear mussel inhabits low to moderate gradient, shallow, large creeks and medium to big rivers with sand, muddy sand, or rocky substrates and moderate to swift currents. In Louisiana it is known from the Tickfaw, Amite, and Tangipahoa Rivers.

**Alabama Hickorynut (*Obovaria unicolor*)**
This species utilizes sand/gravel substrates in moderately flowing large size streams and has been found in a variety of habitats including swift, gravel bottomed shoals, deep gravel and sand bottomed runs, silty stream margins, pools, backwater sloughs, and high water side channels. In Louisiana it is known from the Pearl, Tangipahoa, Tickfaw, and Amite Rivers.

**i. Botanical Elements (Vegetation)**
Construction of the project would disturb existing vegetation along an approximate 500' length of the bankline of the river. Bankline vegetation is expected to reestablish within a short time upon completion of the work, and stabilize over time once construction is completed. Currently bankline vegetation continues to be lost due to erosion.

**j. Geological Features**
The proposed project area is located approximately 0.5 mile south of the confluence of the Tangipahoa River with Chappepeela Creek and within the Gulf Coast Flatwoods ecoregion of the Southern Coastal Plain. The ecoregion is generally described as nearly level terraces and alluvial and deltaic deposits composed of Quaternary-age sands and clays. Soils are a mix of poorly to moderately well drained Entisols, Alfisols, and Ultisols with silty and fine sandy loam surfaces. The project site reflects the geomorphology specific to the Tangipahoa riverine system with highly erodible, sandy loam soils. No impacts to geological features are expected to result from the proposed construction activities.

**k. Hydrological Features**
Temporary, minor and localized disturbance to hydrology in the immediate vicinity of the construction activities is expected during construction. No long term or permanent impacts to hydrology would occur as a result of the proposed project.

**l. Water Quality/Quantity**
Minimal disturbance to water quality would occur during construction activities, placement of materials and placement of fill behind the bulkhead. Work practices will be implemented to minimize debris entering the river during construction and to minimize silt deposition within the river. No impacts to the water quantity or flow would result from construction or maintenance of the proposed project

**Statement of Justification**
The amount of land loss during high river stages has become unacceptable, and without some form of erosion protection, the property will become unviable.

**Alternative Locations and/or Methods Considered**
Due to the specific nature of the need for erosion control at the project location, no other locations are possible; therefore, none are proposed or considered. The construction methods were selected based on aesthetics and costs relative to other materials.

Several alternatives were considered for controlling the erosion:

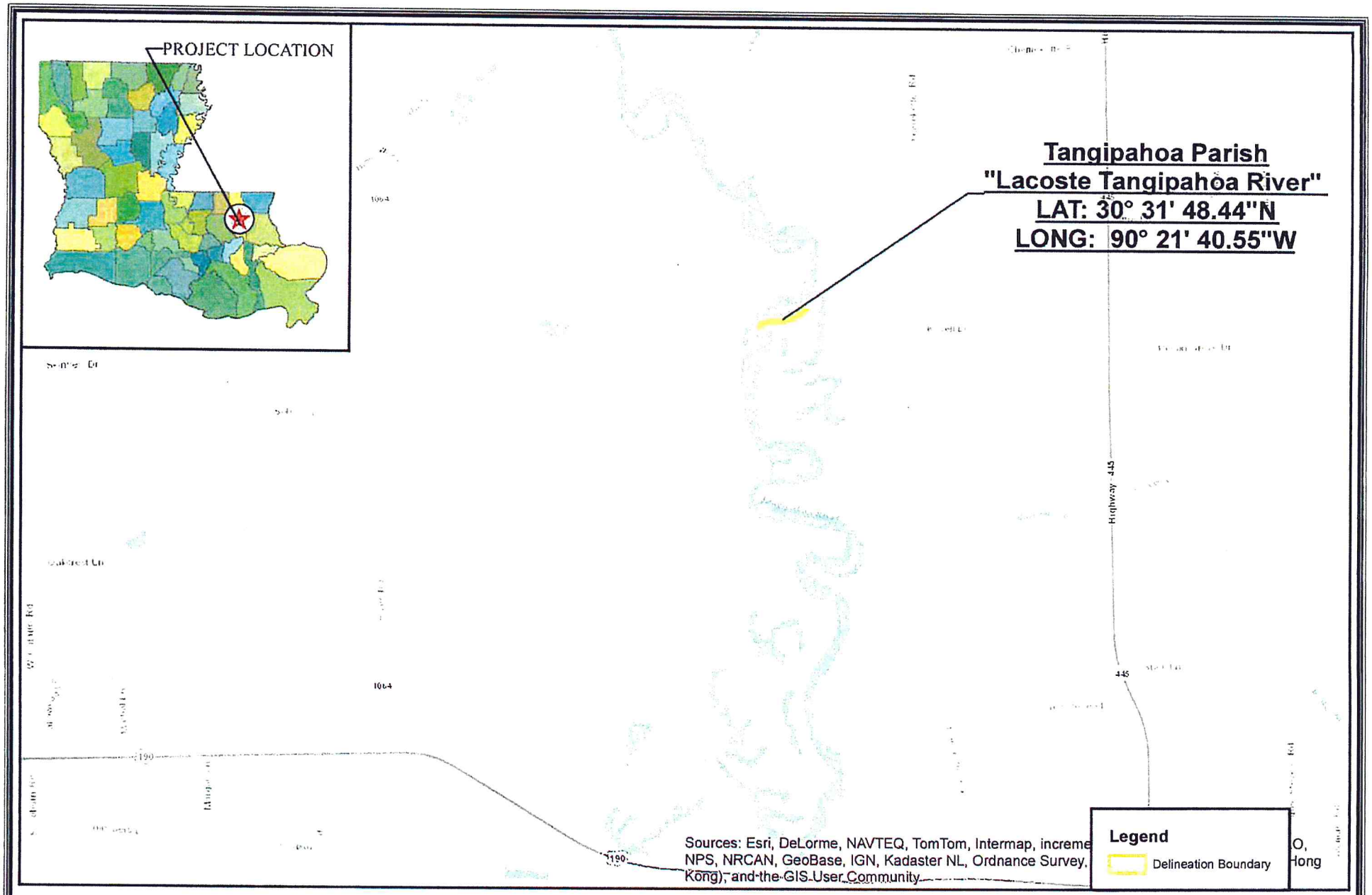
1. bulkhead with riprap placement
2. gabion
3. reno mattress
4. riprap
5. hesco basket

Any of the above alternatives will stabilize the riverbank and provide erosion protection. The least obtrusive alternative is considered to be the bulkhead with some riprap protection that may be naturally vegetated. The applicant is aware and concerned about the aesthetics of any control measures put in place, and definitely wants to maintain the scenic qualities of his property.

**Conclusion**
The proposed bulkhead construction will have minor permanent aesthetic impacts to the bankline of the Tangipahoa River. However, construction of the project would allow the continued access and enjoyment of the scenic properties by the applicant and others for private recreational use. No federal or state listed species are likely to be adversely affected by the proposed activities.

# APPENDIX A

## Maps




FENSTERMAKER

T:\2013\2130469\ENVIRONMENTAL\MXD

**FIGURE 1 : VICINITY MAP**

***(NGS USA TOPOGRAPHIC MAP)***

**JOSEPH LACOSTE, Jr.**
**Lacoste Tangipahoa River**
**SECTION :13 T06S - R08E**
**Tangipahoa Parish, LOUISIANA**
**5/14/2013**


**FIGURE 2 : PROPOSED BULKHEAD LOCATION**

JOSEPH LACOSTE, JR.
Lacoste Tangipahoa River
SECTION : 13 T06S - R08E
Tangipahoa Parish, LOUISIANA
6/24/13


FENSTERMAKER

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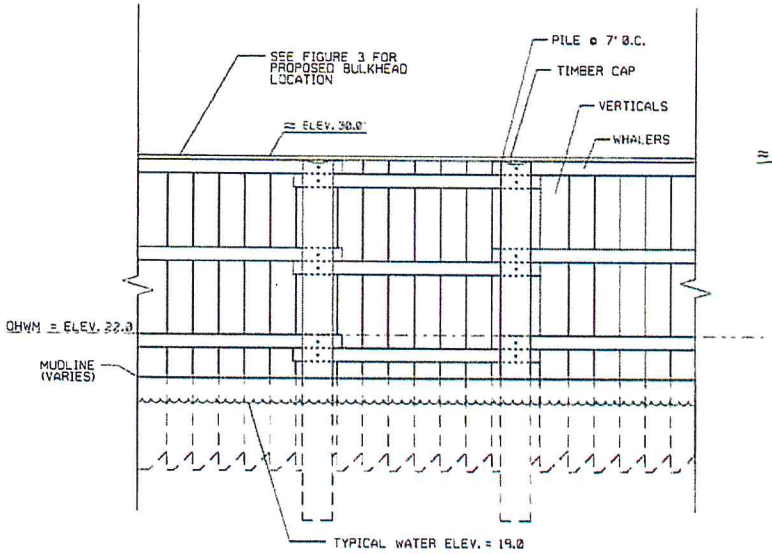
-TOP OF BANK
-PROPOSED BULKHEAD
-PROPOSED FILL

**FIGURE 3 : PROPOSED BULKHEAD DIMENSIONS**

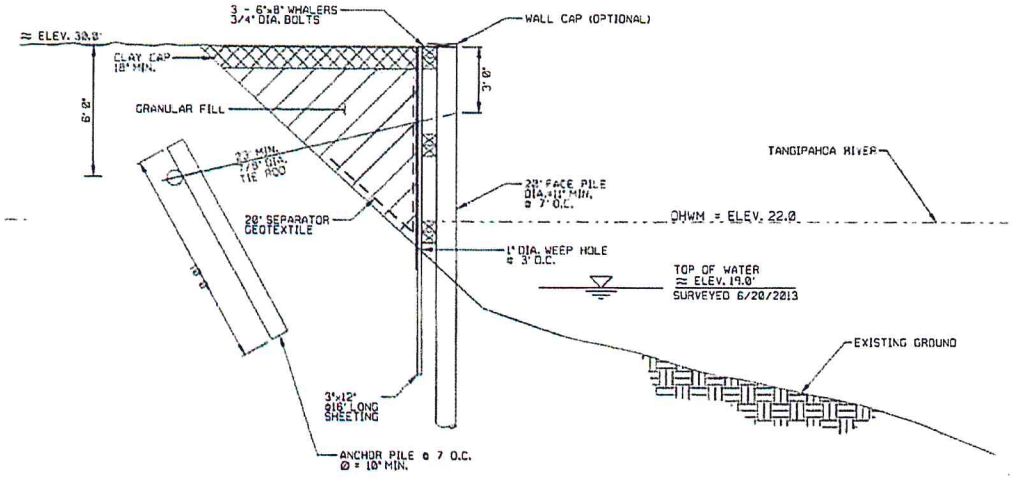
JOSEPH LACOSTE, JR.
Lacoste Tangipahoa River
SECTION : 13 T06S - R08E
Tangipahoa Parish, LOUISIANA
6/24/13

PROPOSED FILL ABOVE OHWM = 945 C.Y.

PROPOSED FILL BELOW OHWM = 75 C.Y.




WOOD BULKHEAD ELEVATION
NOT TO SCALE




WOOD BULKHEAD DETAIL
NOT TO SCALE

NOTES:
1) ALL WOOD TO BE TREATED TO AWPA STANDARD FOR FRESH WATER APPLICATION.
2) ALL FASTENERS AND TIE RODS SHOULD BE HOT DIPPED GALVANIZED PER ASTM A-153.
3) BACKFILL SHOULD BE FREE DRAINING, CLEAN, GRANULAR (SAND) MATERIAL WITH CLAY CAP.
4) MINIMUM 1" DIAMETER WEEP HOLES WITH FILTER FABRIC AND GRANULAR FILTER MATERIAL SHOULD BE INSTALLED EVERY 3' ON CENTER.
5) RETURNS MUST BE PROVIDED AT THE ENDS OF ALL BULKHEADS TO PREVENT THE POSSIBILITY OF FLANKING.
6) ALL CUTS, HOLES, AND INJURIES TO THE SURFACE OF THE TREATED WOOD SHOULD BE PROTECTED BY FIELD TREATMENT WITH COPPER NAPTHENATE MEETING AWPA STANDARD P-8.
7) ALL TREATED WOOD PRODUCTS SHOULD BE HANDLED AND FIELD FABRICATED IN ACCORDANCE WITH AWPA STANDARD M4.

OHWM = ORDINARY HIGH WATER MARK

CROSS SECTION DATA BASED ON INFORMATION OBTAINED FROM LAND SURVEYING, LLC 6/20/2013

FENSTERMAKER

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**FIGURE 4 : PROPOSED BULKHEAD DETAIL**
**JOSEPH LACOSTE, JR.**
**Lacoste Tangipahoa River**
**SECTION : 13 T06S - R08E**
**Tangipahoa Parish, LOUISIANA**
**6/24/13**

# APPENDIX B

## Photos

Photo 1: Existing Bankline facing Southwest

Photo 2: Existing Bankline facing Southwest

Photo 3: Existing Bankline facing North

Photo 4: Existing Bankline facing West

Photo 5: Existing Bankline facing North

Photo 6: Existing Bankline

Photo 7: Existing Bankline facing Southwest

Photo 8: Existing Bankline facing Northeast

Photo 9: Existing Bankline facing West

Photo 10: Existing Bankline facing Northeast

# APPENDIX C

## LDWF Natural Heritage Program
## List of Rare Species in Tangipahoa Parish

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| Acipenser oxyrinchus desotoi [9] | Gulf Sturgeon | S1S2 | G3T2 | T | T | Acipenser oxyrinchus desotoi [10] | Ascension, Livingston, Orleans, St. Bernard, St. Tammany, Tangipahoa, Washington |
| Aimophila aestivalis [11] | Bachman's Sparrow | S3 | G3 | | | Aimophila aestivalis [12] | Allen, Beauregard, Bienville, Bossier, Calcasieu, Claiborne, Grant, Jackson, Livingston, Natchitoches, Rapides, Sabine, St. Tammany, Tangipahoa, Vernon |
| Alosa alabamae [13] | Alabama Shad | S1 | G3 | | C | Alosa alabamae [14] | East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, Washington |
| Anodontoides radiatus [15] | Rayed Creekshell | S2 | G3 | | | | East Baton Rouge, East Feliciana, St. Helena, Tangipahoa, Washington |
| Crotalus adamanteus [16] | Eastern Diamondback Rattlesnake | S1 | G4 | | | | Tangipahoa, Washington |
| Elanoides forficatus [17] | American Swallow-tailed Kite | S1S2B | G5 | | | Elanoides forficatus [18] | Beauregard, East Baton Rouge, Iberville, Pointe Coupee, St. Landry, St. Martin, St. Tammany, Tangipahoa, Washington |
| Elliptio crassidens [19] | Elephant-ear | S2S3 | G5 | | | | East Feliciana, St. Helena, St. Tammany, Tangipahoa |
| Eptesicus fuscus [20] | Big Brown Bat | S1S2 | G5 | | | Eptesicus fuscus [21] | Beauregard, Caldwell, Lincoln, Natchitoches, Orleans, Ouachita, Sabine, St. Helena, Tangipahoa, Vernon, Winn |
| Farancia erytrogramma [22] | Rainbow Snake | S2 | G4 | | | Farancia erytrogramma [23] | East Baton Rouge, East Feliciana, St. Tammany, Tangipahoa |
| Fundulus euryzonus [24] | Broadstripe Topminnow | S2 | G2 | | | Fundulus euryzonus [25] | East Feliciana, St. Helena, Tangipahoa |
| Gopherus polyphemus [26] | Gopher Tortoise | S1 | G3 | T | T | Gopherus polyphemus [27] | St. Tammany, Tangipahoa |
| Graptemys gibbonsi [28] | Pascagoula Map Turtle | S3 | G3G4 | | | | St. Tammany, Tangipahoa |
| Haliaeetus leucocephalus [29] | Bald Eagle | S2N,S3B | G5 | E | Delisted | Haliaeetus leucocephalus [30] | Ascension, Assumption, Avoyelles, Beauregard, Bossier, Caddo, Calcasieu, Claiborne, Concordia, DeSoto, East Baton Rouge, East Feliciana, Franklin, Iberia, Iberville, Jackson, Jefferson, Lafourche, LaSalle, Livingston, Morehouse, Natchitoches, Orleans, Ouachita, |

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| | | | | | | | Plaquemines, Pointe Coupee, Rapides, Richland, Sabine, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa, Tensas, Terrebonne, Union, Vermilion, West Baton Rouge, West Feliciana |
| Lampropeltis calligaster rhombomaculata [31] | Mole Kingsnake | S1S2 | G5T5 | | | Lampropeltis calligaster rhombomaculata [32] | St. Tammany, Tangipahoa |
| Lampsilis ornata [33] | Southern Pocketbook | S3 | G5 | | | | East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa |
| Macrochelys temminckii [34] | Alligator Snapping Turtle | S3 | G3G4 | Restricted Harvest | | Macrochelys temminckii [35] | Acadia, Allen, Avoyelles, Beauregard, Bienville, Catahoula, Concordia, Grant, Iberia, Lafayette, Madison, Ouachita, Rapides, St. John the Baptist, St. Landry, St. Tammany, Tangipahoa, Tensas, Vermilion |
| Micrurus fulvius [36] | Harlequin Coral Snake | S2 | G5 | | | Micrurus fulvius [37] | St. Helena, St. Tammany, Tangipahoa |
| Obovaria unicolor [38] | Alabama Hickorynut | S1 | G3 | | | Obovaria unicolor [39] | East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa |
| Ophisaurus ventralis [40] | Eastern Glass Lizard | S3 | G5 | | | Ophisaurus ventralis [41] | East Baton Rouge, East Feliciana, Jefferson, Lafourche, Livingston, Plaquemines, St. Helena, St. Tammany, Tangipahoa, Terrebonne |
| Picoides borealis [42] | Red-cockaded Woodpecker | S2 | G3 | E | E | Picoides borealis [43] | Allen, Beauregard, Bienville, Bossier, Caddo, Caldwell, Catahoula, DeSoto, Evangeline, Grant, Jackson, LaSalle, Livingston, Morehouse, Natchitoches, Ouachita, Rapides, Sabine, St. Tammany, Tangipahoa, Union, Vernon, Webster, Winn |
| Pleurobema beadleianum [44] | Mississippi Pigtoe | S2 | G3 | | | Pleurobema beadleianum [45] | East Feliciana, Livingston, St. Helena, Tangipahoa |
| Pogonomyrmex badius [46] | Florida Harvester Ant | S1 | G5 | | | | Tangipahoa |
| Polyodon spathula [47] | Paddlefish | S3 | G4 | | | Polyodon spathula [48] | Acadia, Avoyelles, Cameron, Catahoula, Concordia, Evangeline, Franklin, Iberia, Jefferson Davis, LaSalle, Orleans, Ouachita, Rapides, Sabine, St. Bernard, St. Charles, St. John the Baptist, St. Martin, St. Mary, St. Tammany, Tangipahoa, Tensas, Union |
| Sorex longirostris [49] | Southeastern Shrew | S2S3 | G5 | | | Sorex longirostris [50] | East Baton Rouge, East Feliciana, Livingston, Tangipahoa, West Feliciana |

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| Spilogale putorius [51] | Eastern Spotted Skunk | S1 | G5 | | | Spilogale putorius [52] | Ascension, Cameron, Livingston, Tangipahoa, West Feliciana |
| Trichechus manatus [53] | Manatee | SNA | G2 | E | E | Trichechus manatus [54] | Ascension, Cameron, East Baton Rouge, East Feliciana, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Tammany, Tangipahoa, Terrebonne |
| Villosa vibex [55] | Southern Rainbow | S2 | G5Q | | | | East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa |

Rare Plant Species

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| Asclepias michauxii [56] | Michaux Milkweed | S2 | G4G5 | | | | St. Tammany, Tangipahoa |
| Calopogon pallidus [57] | Pale Grass-pink | S2 | G4G5 | | | | St. Tammany, Tangipahoa |
| Carya pallida [58] | Sand Hickory | S2 | G5 | | | | St. Helena, Tangipahoa, Washington |
| Chamaelirium luteum [59] | Fairy Wand | S2S3 | G5 | | | Chamaelirium luteum [60] | Lincoln, Natchitoches, Ouachita, St. Helena, St. Tammany, Tangipahoa, Washington, West Feliciana |
| Chasmanthium ornithorhynchum [61] | Bird-bill Spikegrass | S2 | G4 | | | Chasmanthium ornithorhynchum [62] | St. Tammany, Tangipahoa |
| Cirsium lecontei [63] | Lecont's Thistle | S2 | G2G3 | | | Cirsium lecontei [64] | St. Tammany, Tangipahoa |
| Cirsium muticum [65] | Swamp Thistle | SU | G5 | | | | Iberia, Tangipahoa, Vernon |
| Dryopteris ludoviciana [66] | Southern Shield Wood-fern | S2 | G4 | | | Dryopteris ludoviciana [67] | Bienville, East Baton Rouge, East Feliciana, Grant, Iberia, Rapides, St. Mary, Tangipahoa, West Feliciana |
| Echinodorus tenellus [68] | Dwarf Burhead | SH | G5? | | | | Tangipahoa |
| Helenium brevifolium [69] | Shortleaf Sneezeweed | S1 | G3G4 | | | Helenium brevifolium [70] | St. Tammany, Tangipahoa |
| Ilex amelanchier [71] | Sarvis Holly | S2 | G4 | | | Ilex amelanchier [72] | St. Tammany, Tangipahoa, Vernon |

Rare Plant Species

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| Ilex myrtifolia [73] | Myrtle Holly | S2 | G5? | | | Ilex myrtifolia [74] | St. Tammany, Tangipahoa |
| Lechea minor [75] | Thyme-leaf Pinweed | S1? | G5 | | | | Calcasieu, Tangipahoa, Washington |
| Lechea pulchella [76] | A Pinweed | S1S2 | G5 | | | | St. Tammany, Tangipahoa |
| Lilium catesbaei [77] | Southern Red Lily | S1 | G4 | | | | St. Tammany, Tangipahoa |
| Nymphoides cordata [78] | Floating-heart | SH | G5 | | | Nymphoides cordata [79] | Tangipahoa |
| Oenothera rhombipetala [80] | Four-point Evening Primrose | S1? | G4G5 | | | | St. Helena, Tangipahoa |
| Physalis carpenteri [81] | Carpenter's Ground-cherry | S1 | G3 | | | Physalis carpenteri [82] | St. Helena, St. Tammany, Tangipahoa, West Feliciana |
| Podostemum ceratophyllum [83] | Riverweed | S1 | G5 | | | | East Feliciana, St. Helena, St. Tammany, Tangipahoa |
| Polygala crenata [84] | Scalloped Milkwort | S2 | G4? | | | Polygala crenata [85] | Allen, Beauregard, St. Tammany, Tangipahoa |
| Potamogeton epihydrus [86] | Nuttall Pondweed | SH | G5 | | | | Tangipahoa, West Carroll |
| Pteroglossaspis ecristata [87] | A Wild Coco | S2 | G2G3 | | | Pteroglossaspis ecristata [88] | Allen, Beauregard, Grant, Jefferson Davis, St. Tammany, Tangipahoa, Vernon |
| Quercus coccinea [89] | Scarlet Oak | S2S3 | G5 | | | | Tangipahoa |
| Rhynchospora compressa [90] | Flat-fruit Beakrush | S3 | G4 | | | Rhynchospora compressa [91] | Beauregard, St. Tammany, Tangipahoa |
| Salix humilis var. tristis [92] | Dwarf Gray Willow | S2 | G5T4T5 | | | | Morehouse, Ouachita, St. Helena, Tangipahoa, West Carroll |
| Sarracenia psittacina [93] | Parrot Pitcherplant | S3 | G4 | | | Sarracenia psittacina [94] | St. Tammany, Tangipahoa |
| Sericocarpus linifolius | Narrowleaf Aster | S2 | G5 | | | | St. Tammany, Tangipahoa |

Rare Plant Species

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| [95] | | | | | | | |
| Sium suave [96] | Hemlock Water-parsnip | S1S2 | G5 | | | Sium suave [97] | St. Tammany, Tangipahoa |
| Stewartia malacodendron [98] | Silky Camellia | S2S3 | G4 | | | | Caldwell, Catahoula, East Baton Rouge, East Feliciana, Grant, Livingston, St. Helena, St. Tammany, Tangipahoa |
| Trichomanes petersii [99] | Dwarf Filmy-fern | S2 | G4G5 | | | | East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa |
| Tridens carolinianus [100] | Carolina Fluff Grass | S2 | G3 | | | | St. Helena, St. Tammany, Tangipahoa |
| Zornia bracteata [101] | Viperina | S2 | G5? | | | | Natchitoches, Tangipahoa, Vernon, Winn |

Natural Communities

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| Cypress Swamp [102] | | S4 | G4G5 | | | Cypress Swamp [103] | Ascension, Bienville, Bossier, Evangeline, Iberia, Iberville, LaSalle, Rapides, Richland, St. Mary, Tangipahoa |
| Eastern Longleaf Pine Savannah [104] | | S1 | G1 | | | Eastern Longleaf Pine Savannah [105] | St. Tammany, Tangipahoa |
| Eastern Upland Longleaf Pine Forest [106] | | S1S2 | G1G2 | | | Eastern Upland Longleaf Pine Forest [107] | St. Helena, St. Tammany, Tangipahoa, Washington |
| Estuarine Submergent Vascular Vegetation [108] | | S1S2 | G4? | | | Submergent Vascular Vegetation [109] | Lafourche, Orleans, St. Tammany, Tangipahoa |
| Freshwater Marsh [110] | | S1S2 | G3G4 | | | Freshwater Marsh [111] | Cameron, Lafourche, Plaquemines, St. Charles, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion |
| Hardwood Slope Forest [112] | | S3S4 | G2G3 | | | Hardwood Slope Forest [113] | Bienville, Bossier, Caldwell, Catahoula, East Feliciana, Evangeline, Grant, Jackson, LaSalle, Natchitoches, Ouachita, Rapides, St. Helena, |

Natural Communities

| Scientific Name [3] | Common Name [4] | State Rank [5] | Global Rank [6] | State Status [7] | Federal Status [8] | Fact Sheet | Parishes |
|---|---|---|---|---|---|---|---|
| | | | | | | | St. Mary, St. Tammany, Tangipahoa, Union, West Carroll |
| Mixed Hardwood-Loblolly Pine Forest [114] | | S4 | G3G4 | | | Mixed Hardwood-Loblolly Pine Forest [115] | Caldwell, Catahoula, Claiborne, Evangeline, Grant, Jackson, LaSalle, Natchitoches, Ouachita, Rapides, Richland, Tangipahoa, Vernon, Webster, West Carroll, Winn |
| Pondcypress Swamp/Blackgum Swamp [116] | | S1 | G3 | | | Pondcypress Swamp/Blackgum Swamp [117] | St. Tammany, Tangipahoa |
| Shortleaf Pine/Oak-Hickory Forest [118] | | S2S3 | G2G3 | | | Shortleaf Pine/Oak-Hickory Forest [119] | Bienville, DeSoto, Grant, Lincoln, Natchitoches, Rapides, Tangipahoa, Webster, Winn |
| Small Stream Forest [120] | | S3 | G3 | | | Small Stream Forest [121] | Claiborne, DeSoto, East Feliciana, Franklin, Grant, LaSalle, Natchitoches, Rapides, Sabine, St. Helena, St. Tammany, Tangipahoa, Vernon, Webster, West Feliciana, Winn |
| Submerged/Floating Vascular Vegetation [122] | | S4 | --- | | | | St. Tammany, Tangipahoa |